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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,960	02/20/2004	Thomas A. Petersen	MIPS.0187.02-00US	4828
23669 7590 12/20/2006 HUFFMAN LAW GROUP, P.C. 1900 MESA AVE. COLORADO SPRINGS, CO 80906			EXAMINER PORTKA, GARY J	
			ART UNIT 2188	PAPER NUMBER

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/20/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

**Application No.**

10/783,960

**Applicant(s)**

PETERSEN ET AL.

**Examiner**

Gary J. Portka

**Art Unit**

2188

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 11-29, 43-64 and 69-93 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-29, 43-52, 70 and 71 is/are allowed.
- 6) ☒ Claim(s) 53-64, 69 and 72-82 is/are rejected.
- 7) ☒ Claim(s) 83-93 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. Claims 1-10, 30-42, and 65-68 have been canceled, claims 69-93 have been added, and claims 11, 12, 17-19, 24, 25, 27, 29, 43, 53, 54, 56, 57, and 61-64 have been amended by Applicants. Claims 11-29, 43-64, and 69-93 are pending.

#### ***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 61-64 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

4. Regarding Claims 61-64: As defined on page 30 of Applicant's Specification, a computer readable medium may comprise a transmission medium such as a carrier wave, and thus constitutes non-statutory subject matter. Any signal transmitted upon such a medium, as claimed by applicant, does not fall within any of the patent eligible categories set forth by 35 U.S.C. 101: process, machine, manufacture or composition of matter.

#### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 69 and 73 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to

which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 69 and 73 recite responses to the requests are independent of the latency. Such a limitation appears to be impossible since the requests cannot be responded to at least until such latency has elapsed.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 53-60 are rejected under 35 U.S.C. 102(b) as being anticipated by Carpenter et al. (US Patent # 6,067,611), herein Carpenter.

9. As per Claim 53, Carpenter discloses a method for providing latency independent coherence among a plurality of agents that share a memory, the method comprising: establishing three phases for memory requests comprising: a request phase; a snoop phase; and a response phase [Column 5, Lines 6-51]; when multiple memory requests are outstanding, establishing a global order for the requests, each of the requests submitted during the request phase [Column 2, Lines 40-60 & Column 6, Lines 16-27]; entering a snoop phase for each of the requests, following its request phase, the snoop phase (comprising a global arbiter) querying the plurality of agents to determine whether they contain data pertaining to the requests [Column 5, Lines 6-51]; and entering a response phase for each request after the plurality of agents have responded to the

snoop phase for the request, the response phase providing data pertaining to the request to its requesting agent [Column 5, Lines 6-51].

10. As per Claim 54, Carpenter discloses the method as recited in claim 53 wherein the request phase comprises submitting a request from an agent to a global arbiter [Column 5, Lines 52-67].

11. As per Claim 55, Carpenter discloses the method as recited in claim 54 wherein the request phase further comprises receiving the request by the global arbiter, and ordering the request according to the global order [Column 2, Lines 40-60 & Column 6, Lines 16-27].

12. As per Claim 56, Carpenter discloses the method as recited in claim 53 wherein the snoop phase comprises communicating requests to the agents that share the memory according to the global order [Column 2, Lines 40-60 & Column 5, Line 52 – Column 6, Line 27].

13. As per Claim 57, Carpenter discloses the method as recited in claim 56 wherein the snoop phase further comprises awaiting a snoop response from the agents before proceeding to the response phase [Column 7, Lines 48-60].

14. As per Claim 58, Carpenter discloses the method as recited in claim 53 wherein the response phase comprises providing data associated with a request to the agent that generated the request, according to the global order [Column 2, Lines 40-60 & Column 6, Lines 16-27].

15. As per Claim 59, Carpenter discloses the method as recited in claim 53 wherein the global order causes response phases associated with each request to be

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completed, in order, without regard to latencies between memory requests [Column 2, Lines 40-60 & Column 6, Lines 16-27].

16. As per Claim 60, Carpenter discloses the method as recited in claim 53 wherein the global order causes response phases associated with each request to be completed, in order, without regard to latencies between a global arbiter and its agents [Column 6, Lines 16-27].

17. Claims 72-82 are rejected under 35 U.S.C. 102(b) as being anticipated by Neiger et al., US 6,112,283 (hereinafter "Neiger").

18. As to claims 72, 74-82, Neiger discloses a memory controller coupled to a memory and plurality of agents, configured to receive memory requests, assign a global order thereto, execute according to the order a snoop corresponding to each request, and respond to each request according to the global order. See Neiger Summary, col. 4 lines 34-67 (global order is given to requests and they are responded to in order), col. 10 lines 43-59 (snoops are performed in node reception order), and col. 18 lines 54-56 (global order may be the same as node reception order). The various dependent claim limitations including communicating queries, microprocessors/I/O devices, common and disparate buses, coherency, monitoring, etc. are disclosed in or inherent to the descriptions cited above.

***Allowable Subject Matter***

19. Claims 11-29, 43-52, 70, and 71 are allowed.

20. Claims 83-93 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

21. Applicant's arguments filed August 17, 2006 have been considered but they are not fully persuasive.

22. The response to the 35 USC 101 rejection does not overcome the rejection in full because claim 61 can still be interpreted as being a signal on a non-statutory medium.

23. Applicants argued that the recited invention global arbiter receives requests, assigns a global order thereto, and determines whether any of the microprocessors has associated data by executing a snoop according to the global order. However, these limitations are not supported by the language of claims 53-60. Since Carpenter performs the recited function (queries the agents to determine whether they have data corresponding to the request), a global arbiter as recited in those claims is disclosed.

***Conclusion***

24. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary J. Portka whose telephone number is (571) 272-4211. The examiner can normally be reached on M-F 9:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hyung Sough can be reached on (571) 272-6799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gary J Portka  
Primary Examiner  
Art Unit 2188

**GARY PORTKA**  
**PRIMARY EXAMINER**



December 11, 2006